

with a dark dorso-central vitta which is visible from almost any angle. Legs yellow, tarsi black. Wings clear, veins yellow basally. Calyptræ and halteres yellow.

Frons slightly less than one-third of the head-width; orbits each with three supraorbital bristles and two infra-orbitals; cruciate interfrontals lacking; parafacial at base of antennæ wider than the rather broad third antennal segment; longest hairs on arista distinctly longer than width of third antennal segment; palpi narrow. Thorax with about three pairs of closely placed presutural acrostichals; prealar very long; sternopleurals 1:2. Fore tibia with one anterodorsal and one posterior bristle well apicad of middle; basal segment of fore tarsus slender, as long as next three, second, third, and fourth segments dilated, of about equal width, fourth less than twice as long as wide; mid-femur with two anterior, one antero-ventral, and three postero-ventral bristles basad of middle; mid-tibia with one antero-dorsal, one postero-dorsal, and two posterior bristles; hind femur with six antero-ventral bristles, a wide space between third and fourth, and one or two postero-ventral bristles; hind tibia with one antero-ventral, two antero-dorsal, and two postero-dorsal bristles. Costal thorn short; last section of fourth vein not longer than preceding section.

Length 11 mm.

*Type*, Lower Ranges, North Khasi Hills, Assam, 1878 (*A. Chennell*).

One female.

The largest species of the genus known to me.

XLI.—*Notes on Australasian Rats, with a Selection of Lectotypes of Australasian Muridæ.* By OLDFIELD THOMAS.

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WHILE determining a rat from Mt. Compass, in the neighbourhood of Adelaide, sent to the British Museum by Prof. Wood Jones, I have had occasion to study the various South-Australian species described by Grey and Gould, which were largely based on the material sent home by Capt. (later Sir) George Grey.

These specimens have been somewhat indiscriminately labelled *Mus* (now to be called *Rattus*) *fuscipes* and *greyi*,



not to mention the larger forms related to *R. lutreola*. But examination shows that no S.-Australian specimens are really referable to *fuscipes*, which seems quite peculiar to Western Australia.

The S.-Australian series, however, is none the less divisible into two, one, the true *R. greyi*, of which I now designate no. 41. 1266, one of the co-types, skin and imperfect skull, as the lectotype, being the form sent home by Prof. Wood Jones, so that this native rat at least is still existent.

It is the smaller of the two species, the molars are decidedly smaller, the supraorbital edges are not ridged, even posteriorly, and, externally, the fur, though long, is not so excessively long as it is in the other species.

At least eight of the Museum specimens are referable to *greyi*, all received in 1841–1845, Prof. Wood Jones's example being the first additional specimen that has come home.

The other South-Australian species belongs to a type of rat widely distributed in the interior from Adelaide to North Queensland, in which latter region it has received the name of *culmorum*. It would appear to be divisible geographically into three forms, from Queensland, Interior New South Wales, and South Australia respectively. The three are alike in most essential characters, but there is a progressive increase southward in the softness and length of the hair, and a decrease in the size of the bullæ; the more southern forms also have greyer bellies and shorter feet.

*Rattus culmorum vallesius*, subsp. n.

General characters of true *culmorum*, but the fur thicker and softer; hairs of back about 15 mm. in length. Colour above very much the same, but below the belly is much greyer, the hairs slaty for most of their length, while in *culmorum* they are either wholly whitish or else merely have their extreme base greyish. Feet rather shorter than in *culmorum*.

Skull essentially similar to that of *culmorum*, but the tooth-row is shorter and the bullæ rather smaller.

Dimensions of the type:—

Head and body (on skin) 160 mm.; tail (as recorded by Sir T. L. Mitchell) 140; hind foot 28; ear 19.

Skull: greatest length 36.5; condylo-incisive length 35.2; zygomatic breadth 20; nasals 13.5; interorbital breadth 5; palatal foramina 7.5; bulla 8.3; upper molar series 6.6.

*Hab.* Interior of New South Wales. Type from Duck Creek, Macquarie River, Upper Darling; 31° 10' S., 147° 40' E. A skull in the Gould collection from the Darling Downs.



*Type.* Adult male. B.M. no. 47. 8. 14. 5. Collected on February 7th, 1846, during Sir T. L. Mitchell's 1845-46 expedition into Tropical Australia. Two specimens.

"Ooba" of the natives.—*Sir T. L. Mitchell.*

*Rattus culmorum austrinus*, subsp. n.

Fur again still longer than in *vallesius*, the hairs of the back commonly 20 mm. in length, while the longer piles overtop them by some 10 mm. General colour rather greyer and less definitely fawn-coloured. Below equally grey, as distinguished from the whitish of *culmorum*.

Skull with teeth as in *vallesius*, but the bullæ are still smaller.

Dimensions of the type:—

Head and body (skin) 155 mm. ; tail 120 ; hind foot 28.

Skull: condylo-incisive length (c.) 34; back of parietals to gnathion 32.5; zygomatic breadth 18; nasals 13; inter-orbital breadth 4.5; palatal foramina 7.5; bulla 7.4; upper molar series 6.8.

*Hab.* South Australia; type probably from Kangaroo Island\*.

*Type.* Adult male. B.M. no. 55. 12. 24. 336. Collected by Dr. J. B. Harvey and presented by him in 1841 to the Zoological Society's Museum. Five further specimens presented by Sir George Grey, and one (a lectoparatype of *R. greyi*) in the Gould collection.

Evidently a common rat in South Australia in the forties, but whether it still exists in any out-of-the-way part of the colony we have no evidence to show.

All the forms of *culmorum* are readily distinguishable from *greyi* by their distinctly beaded supraorbital edges, their larger teeth, and much larger bullæ.

Allied in a general way to *culmorum* is the following new species from Melville Island, North Australia:—

*Rattus melvilleus*, sp. n.

Most like *R. tunneyi* of the mainland of North Australia, but considerably larger.

Fur coarse and harsh, liberally mixed with flattened semi-spinous hairs; hairs of back about 13 mm. in length. General

\* I am informed by the authorities of the Zoological Society that Dr. Harvey's address in 1839 was Kingscote, Kangaroo Island, while it was Port Lincoln in 1842. As the specimen was sent to the Zoological Society's Museum in 1841, it is probable that it was obtained at or near the former place.



colour more strongly ochraceous than in the allied species; an indistinct ochraceous-buff line edging the upper colour, this line particularly noticeable along the cheeks and sides of the neck. Under surface dull buffy whitish, the hairs mostly whitish to their bases. Ears almost naked, their fine hairs white. Hands and feet white. Tail very thinly haired, brown above, slightly lighter below. Mammæ normally 2—3=10 as usual, but on one side of one female there appears to be an additional pectoral mamma.

Skull like that of *R. tunneyi*, but considerably larger, more strongly built, and more heavily ridged. Palatal foramina surpassing the first third of  $m^1$ . Bullæ very large.

Dimensions of the type (measured in flesh):—

Head and body 173 mm.; tail 135; hind foot 30; ear 19.

Skull: greatest length 40; condylo-incisive length 39.4; zygomatic breadth 21.8; nasals  $15 \times 5.2$ ; interorbital breadth 5.8; breadth across parietal ridges 15; palatal foramina 9.2; bulla 10.2; upper molar series 7.5.

*Hab.* Melville Island, off the Northern Territory of South Australia; type from Biro, Apsley Strait.

*Type.* Adult male. B.M. no. 13.6.28.33. Original number 14. Collected 27th November, 1911, by Mr. J. P. Rogers. Three specimens, of which one is not fully adult.

Readily distinguishable from all other members of the group by its large skull and large bullæ.

*Rattus mondraineus*, sp. n.

Nearly allied to *R. fuscipes* of Western Australia, with which it shares the general size, long loose fur, and brown colour. But, externally, the colour is greyer, the buffy subterminal rings on the hairs (which give the brown tone to *fuscipes*) being less developed, so that the blue-grey of the underfur is more perceptible. Under surface lighter, the ends of the hairs more whitish. Throat noticeably more whitish than rest of under surface. Hands and feet whitish above, without tinge of brown. Tail as in *fuscipes*, moderately haired, brown above and below.

Skull with the nasals of normal proportions, not so unusually narrowed behind as they are in *fuscipes*. Interorbital region broader, its edges squarish, not sharply angular, and not ridged. Palatal foramina of medium length, rather narrow. Bullæ rather small. Molars decidedly smaller than in *fuscipes*.

Dimensions of the type (taken on the skin):—

Head and body 160 mm.; tail 138; hind foot 30.



Skull: greatest length 37.5; condylo-incisive length 35.5; zygomatic breadth 18.5; nasals, length 13.7, breadth at half their length 3.8; interorbital breadth 5.2; breadth of brain-case 16.3; palatilar length 16.8; palatal foramina  $7.2 \times 2.2$ ; upper molar series 6.

*Hab.* Mondrain Island, off Esperance, south coast of Western Australia.

*Type.* Old male. B.M. no. 7. 7. 18. 3. Collected 29th April, 1906, by J. T. Tunney. Presented by the Western Australian Museum, Perth. Two specimens.

This island rat is alone related to *R. fuscipes*, a species which, in spite of various references from other parts of the continent, I believe to be strictly confined to Western Australia. The new form, while very similar externally, may be readily distinguished by the cranial details above described.

This species and the true *R. greyi* of S. Australia are exceptions to the statement made by me\* that all Australian members of *Rattus* have supraorbital ridges; but it is quite evident that they really are *Rattus*, and not *Pseudomys*.

*Hydromys nauticus*, sp. n.

Size rather small, about as in *H. beccarii*. General colour above dark greyish brown, near "hair-brown," the middle dorsal area more blackish, quite black on the forehead, crown, and nape. Sides greyer. Under surface drabby, the hairs pale slaty at base, with "pinkish buff" ends. Hands pale brownish. Feet almost naked, their fine hairs dull whitish. Tail, as usual in the northern forms of the genus, with nearly half of the short-haired portion white.

Skull about as in *H. beccarii*, with similarly broad heavy muzzle. Incisors very pale yellow in front. Molars rather small.

Dimensions of the type (measured in flesh):—

Head and body 265 mm.; tail 215, its white terminal portion 79; hind foot 50; ear 22.

Skull: greatest length 55; condylo-incisive length 52.5; zygomatic breadth 27; breadth of muzzle on premaxillo-maxillary suture 10.8; nasals  $17 \times 6.6$ ; intertemporal breadth 6.8; breadth of brain-case 20; palatilar length 25; palatal foramina  $6.1 \times 3.7$ ; upper molars 8.1; breadth of  $m^1$  2.8.

*Hab.* Aru Islands; type from Dobo.

*Type.* Old female with worn teeth. B.M. no. 10. 3. 2. 14. Original number 758. Collected 8th April, 1909, by W. Stalker; presented by the New Guinea Expedition.

\* Ann. & Mag. Nat. Hist. (8) vi. p. 604 (1910).



"Caught on the fore-shore at night."—*W. S.*

This species differs from the Key-Island species, *H. beccarii*, by its much darker colour, especially below, that animal having the under surface of a buffy whitish. In fact, so far as colour is concerned, it more nearly resembles the N.-Australian species *H. caurinus* and the Melville-Island form next to be described.

*Hydromys melicertes*, sp. n.

Apparently a small island representative of *H. caurinus*.

Size and general appearance very much as in the geographically distant *H. nauticus*. Colour above rather greyer than hair-brown, the crown and median dorsal area not specially darker. Sides lighter grey. Under surface very pale grey, "pale olive-grey," the hairs pale grey for the greater part of their length, their tips faintly buffy. Hands and feet dark brown. Tail with the proportions of black and white as in *H. nauticus*.

Skull as in *H. nauticus*, except that the muzzle is more slender. Nasals narrow. Anteorbital foramina less high. These differences, however, may in part be due to age.

Incisors strongly orange in front. Molars small, about as in *nauticus*, much smaller than in *caurinus*.

Dimensions of the type (measured in flesh):—

Head and body 232 mm.; tail 206; hind foot 54; ear 20.

Skull: basilar suture to gnathion 40; zygomatic breadth 25; nasals  $16.8 \times 5.5$ ; breadth of muzzle on premaxillo-maxillary suture 8.3; interorbital breadth 6.8; breadth of brain-case 19; height of anteorbital foramen 5.8; palatilar length 23.5; palatal foramina 5.8; upper molars 8.2; breadth of  $m^1$  2.9.

*Hab.* Melville Island. Type from Biro, Apsley Straits.

*Type.* Young adult female, the teeth fully up, but little worn. B.M. no. 13. 6. 28. 37. Original number 15\*. Collected 9th December, 1911, by J. P. Rogers.

"Trapped near the mangroves, among which the natives say it lives."—*J. P. R.*

Although geographically so close to the N.-Australian *H. caurinus*, this animal is of the same small size as the more distant Aru-Island form, from which it differs by its unblackened head and fore back, its browner feet, and its more slender muzzle.



*Conilurus melibius*, sp. n.

Closely allied to *C. penicillatus*, but with shorter feet.

Size about as in *penicillatus*. Colour of body quite the same buffy grey, with a more strongly buffy patch on the occiput and nape, this coloration being common to both *penicillatus* and *hemileucurus*. Under surface dull whitish, the hairs white to their roots. Hands and feet white. Tail greyish, blackening distally to a point three-fourths of its length, then abruptly white for its terminal fourth, tufted as in the allied species.

Skull, as compared with that of *hemileucurus*, of which alone good specimens are available, smaller, more strongly bowed, with less concave interorbital, the supraorbital edges evenly divergent behind, while in *hemileucurus* the interorbital region is comparatively parallel-sided, evenly concave in front and behind. Palatal foramina to the middle third of  $m^1$ . Molars small, as in *penicillatus*, considerably smaller than those of *hemileucurus*.

Dimensions of the type (measured in flesh) :—

Head and body 154 mm.; tail 177; hind foot 37; ear 23.

Skull: greatest length 38.2; condylo-incisive length 35.4; zygomatic breadth 21; nasals  $15 \times 3.9$ ; interorbital breadth 6.7; palatilar length 18; palatal foramina 9; upper molar series 7.3; breadth of  $m^1$  2.3.

*Hab.* Melville Island, N. Australia; type from Biro, Apsley Straits.

*Type.* Adult female. B.M. no. 13. 6. 28. 36. Original number 3. Collected 9th October, 1911, by Mr. J. P. Rogers.

This species differs from *C. penicillatus*, with which it shares the comparatively small teeth, by its much shorter feet, that animal having the feet of the same length as in the larger-toothed *C. hemileucurus*. To this latter I now refer a good series from the S. Alligator River, collected in 1903 by J. T. Tunney, and hitherto referred to *C. penicillatus*. It is interesting to notice that in this series some specimens have broadly white-tipped tails, as in the type of *hemileucurus*, and others with this organ wholly black, as in the original *penicillatus*.

The inconvenience and confusion that is always liable to arise from species being represented by a number of co-types (as exemplified by the presence of both *R. c. austrinus* and *R. greyi* among the co-types of the latter form) have made me think it advisable to draw up the following list of lectotypes of such Australian Muridæ as were described on two or more



co-types. This was commonly the case with many of Gray's and Gould's species, and the reduction to a single specimen of each for use as a type will certainly tend to the simplification of future work on the group.

These lectotypes have been carefully selected after comparison with the original descriptions and with the fine figures given by Gould.

In one or two cases the same specimens have already been selected by me in previous papers, but it seems advisable, for the sake of completeness, to repeat the selection here.

#### Genus HYDROMYS.

- H. fulvolavatus*, Gould. Lectotype ♂. 56. 10. 28. 14. Murray R., S. Australia. J. Gould.  
*fuliginosus*, Gould. ♀. 56. 10. 28. 15. K. George's Sound, W.A. (*J. Gilbert*). Gould Coll.

#### Genus UROMYS.

- U. cervinipes*, Gould. ♀. 52. 12. 15. 1. Stradbroke Isld., (*F. Strange*). Gould Coll.  
*rufescens*, Alst. ♀. 77. 7. 18. 27. Duke of York Isld. Rev. G. Brown.

#### Genus RATTUS.

- R. assimilis*, Gould. ♂. 58. 11. 24. 10. Clarence R., N.S.W. (*F. Strange*). Gould Coll.  
*browni*, Alst. ♀. 77. 7. 18. 26. Duke of York Isld. Rev. G. Brown.  
*greyi*, Gray. ♂. 41. 1266. S. Australia. Gould Coll.  
*leucopus*, Gray. ♀. 67. 5. 6. 4. Cape York (*Damon*). Higgins.  
*lutreola*, Gray. ♂. 41. 1258. Mosquito Isld., Hunter R., N.S.W. Gould Coll.  
*sordidus*, Gould. ♂. 58. 11. 24. 6. Darling Downs, N.S.W. Gould Coll.  
*vellerosus*, Gray. ♂. 47. 3. 1. 2. S. Australia. Sir G. Grey.  
*velutinus*, Thos. ♀. 77. 7. 3. 1. Tasmania. A. Simson.

#### Genus PSEUDOMYS.

- Ps. albocinereus*, Gould. 44. 7. 9. 16. Perth, W.A. (*J. Gilbert*). Gould Coll.  
*delicatulus*, Gould. 42. 5. 26. 17. Port Essington (*J. Gilbert*). Gould Coll.  
*gouldi*, Waterh. ♀. 55. 12. 24. 149. Hunter R., N.S.W. (*Gould*). Zool. Soc. Mus.  
*lineolatus*, Gould. 58. 11. 24. 4. Darling Downs, N.S.W. Gould Coll.  
*nanus*, Gould. 44. 9. 30. 10. Victoria Plains, W.A. (*J. Gilbert*). Gould Coll.  
*novcehollandice*, Waterh. 43. 2. 24. 1. N.S.W. Gould Coll.



## Genus LEPORILLUS.

- L. apicalis*, Gould\*. ♀. 53. 10. 22. 15. S. Australia  
(F. Strange). Gould Coll.

## Genus NOTOMYS.

- N. cervinus*, Gould. 53. 10. 22. 7. 29° 6' S., 141° E.  
(Sturt). Gould Coll.  
*gouldi*, Gould. 7. 1. 1. 135. W. Australia (J.  
Gilbert). Tomes Coll.  
*longicaudatus*, Gould. 44. 7. 9. 15. Moore's R., W.A.  
(J. Gilbert). Gould Coll.

## Genus CONILURUS.

- C. constructor*, Og. ♀. 63. 2. 20. 1. N.S.W. (G. Ca-  
ley). Linnean Society.

XLII.—On Specimens of *Cephalodiscus densus* dredged by the 'Challenger' in 1874 at Kerguelen Island. By W. G. RIDEWOOD.

[Plate XII.]

THE genus *Cephalodiscus* was founded upon material dredged by the 'Challenger' in January 1876 from Station 311 in the Straits of Magellan; the material was described in 1887 by M'Intosh and Harmer in the Reports of the 'Challenger' Expedition (12), but preliminary accounts were published in 1882, 1883, and 1885 (10, 11, 8). For many years this material of *Cephalodiscus dodecalophus* remained the sole representative of the genus, and it was not until 1903 that Andersson (1) announced a rediscovery of *Cephalodiscus* by the Swedish South-Polar Expedition, and Harmer (5) notified the securing of new species of the genus by the 'Siboga' Expedition. Since that year numerous species have been founded upon material obtained by the 'Siboga' Expedition (6), by Dr. Gilchrist (13), by the 'Discovery' Expedition (9, 14), by the Swedish South-Polar Expedition (2), by Dr. Schepotieff (19), by the Second French Antarctic Expedition (3, 4), by the Scottish National Antarctic Expedition (7), and by the British Antarctic ('Terra Nova') Expedition (16).

Up to the present time sixteen species of *Cephalodiscus* have been described, but some of the specific names may have to be regarded as synonyms (see 16, p. 14, footnote). A synopsis of all the species of *Cephalodiscus* at present known

\* The Museum received from Gould two specimens of this animal, though he stated that he had only one. It seems, therefore, advisable to nominate the specimen that best fits the description as the lectotype.





Thomas, Oldfield. 1921. "Notes on Australasian rats, with a selection of lectotypes for Australasian Muridae." *The Annals and magazine of natural history; zoology, botany, and geology* 8, 425–433.

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